Sarang Shigwan

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Machine Learning | Data Science | Statistics

Summary

Machine Learning engineer with hands-on experience building classification models, image-based detection systems, and data pipelines. Skilled in Python, TensorFlow, Scikit-learn, Pandas, and data visualization. Experienced with IoT-driven ML use cases, model deployment, and cloud-based automation. Strong focus on accurate, scalable ML solutions backed by industry projects and coursework.

Education

Marathwada Mitra Mandal's College of Engineering, Pune, B.E — **Nov 2022 – May 2026**

CGPA : 9.24 (Agg. till date)

Modern College Of Arts Science and Commerce, Pune, H.S.C — **Sep 2020 – June 2022**

Percentage : 74.17

St. Francis De Sales School, Pune , S.S.C — **June 2007 – June 2020**

Percentage : 89.80

Experience

Backend Intern(AWS Cloud) - EvolvingX Pvt. Ltd. — **Oct 2024 – June 2025**

- Developed and maintained a full-stack web platform using React (frontend) and Django (backend), enabling dynamic user interactions and RESTful API integration.
- Deployed the complete application on AWS EC2, with production environment configuration, HTTPS setup, and database integration.
- Optimized backend performance and ensured secure API communication through token validation and middleware customization.

Projects

Automotive Part Quality Classifier (Confidential Client) — **June 2025**

- Created a part inspection model using MobileNetV2 with transfer learning to classify parts as OK or NOT-OK.
- Achieved reliable detection across multiple part variants and production conditions.
- Packaged the workflow into a simple .exe application for in-house use on the factory floor.

Tech Stack: Python, TensorFlow/Keras, MobileNetV2, PyInstaller, OpenCV

Harvest-Health – Crop Monitoring Rover — **March 2025**

- Designed a CNN model to detect potato leaf health with 90%+ accuracy despite a small dataset.
- Built a rover with sensors and a camera to collect field data and send it to the ThingSpeak cloud.
- Integrated Twilio to deliver updates directly to farmers' phones, making ML a key part of the system.

Tech Stack: Python, TensorFlow/Keras, OpenCV, ThingSpeak, Twilio, Embedded Systems

Driver Drowsiness Detection System (Team Achilles) — **January 2024**

- Built a real-time drowsiness detection system using OpenCV and a Raspberry Pi to identify driver fatigue based on eye-blink patterns.
- Implemented Eye Aspect Ratio (EAR)–based detection to monitor prolonged eye closure and trigger audible alerts.
- Integrated a Pi Camera for continuous video capture and optimized the pipeline to run efficiently on low-power hardware.
- Designed for use in motor safety systems to reduce fatigue-related accidents.

Skills

- **Programming:** Python, Bash
- **ML & AI:** Scikit-learn, TensorFlow, Pandas, NumPy, Matplotlib, OpenCV
- **Data Science:** EDA, Feature Engineering, Statistical Modeling, Data Visualization
- **ML Techniques:** Classification, Image Processing, CNNs, Model Evaluation
- **Tools:** Jupyter, Git, Linux
- **Cloud & Deployment:** AWS (EC2, S3, Lambda), Docker, Flask APIs for ML models

Achievements

- **AIR 2** SAENIS Efficycle 2024
- **Runner Up** at National GreenTech Hackathon (Dextirity 2024)
- **Winner** of Technical Event Udaan 2023